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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/627,608

07/28/2003

Yoshitaka Ueda

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4281

22428

7590

09/25/2006

FOLEY AND LARDNER LLP  
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EXAMINER

HA, NATHAN W

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/627,608

Applicant(s)

UEDA, YOSHITAKA

Examiner

Nathan W. Ha

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 12 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 and 19-23 is/are allowed.
- 6) ☒ Claim(s) 12-18, 24, and 26 is/are rejected.
- 7) ☒ Claim(s) 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 12-18, 24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Yee et al. (US 2003/0230799, previously cited, hereinafter, Yee.)

In regard to claims 12 and 19, in figs. 4-5, 7 and 10-11, Yee discloses:

a substrate 16;

an insulating layer 12 formed above said substrate;

a pad 18''' formed above the substrate;

an external bump electrodes 20''' formed above said insulating layer, and

each electrically connected to the external bump electrode, fig. 11; and

a dummy bump electrode 68a''' formed above said insulating layer (fig. 10), and connected to the external bump electrodes. See also figs. 7 and 11.

In regard to claim 13, wherein said dummy bump electrode being allocated between the pad and the external bump electrodes. See figs. 7 and 10.

In regard to claims 14 and 15, wherein said plurality of pads being allocated

along an edge of said substrate. See fig. 10.

In regard to claim 16, Yee further comprises a first wiring or traces 70''' connected between the pad and the external bump electrodes, and a second wiring connected between the external bump electrodes and said dummy bump electrode. See figs. 10-11.

In regard to claims 17 and 18, the pad and the external connections are coupled to an internal circuit, figs. 10 and 11. These devices include in and output elements.

In regard to claim 24, Yee discloses all of the claimed limitations as mentioned above and further discloses

a second external bump electrode above said semiconductor, and connected to said second pad;

a first dummy bump electrode above said semiconductor, and connected to said first external bump electrode; and

a second dummy bump electrode above said semiconductor, and connected to said second external bump electrode. All of these limitations are on the other side of the device. They are identical elements. See figs. 4-7 and 10-11.

In regard to claim 26, wherein said first external bump electrode receives a first signal through said first pad, and said second external bump electrode receives a second signal through said second pad. See fig. 11.

### ***Allowable Subject Matter***

3. Claims 1-8 and 19-23 are allowed.

4. Claim 25 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

5. Applicant's arguments filed 7/7/06 have been fully considered but they are not persuasive. The Applicants argue that the dummy ball contacts are not connected to an external bump electrode. This limitation can be found in fig. 10, where the dummy electrode is connected to the layer 70". The Applicants further argue that the above cited reference does not disclose the limitation of claim 19. Claim 19 is now allowed.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan W. Ha whose telephone number is (571) 272-1707. The examiner can normally be reached on M-TH 8:00-7:00(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Nathan Ha', with a stylized flourish at the end.

Nathan Ha  
September 16, 2006